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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/981,824	09/18/98	ENDL J	P564-7029

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EXAMINER	
DIBRINO,M	
ART UNIT	**PAPER NUMBER**
1644	14

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/981,824	Applicant(s) Endl et al
	Examiner Marianne DiBrino	Group Art Unit 1644

☒ Responsive to communication(s) filed on *Jan 10, 2001*

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-3 and 5-54* is/are pending in the applicat

Of the above, claim(s) *6-17 and 21-54* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-3, 5, and 18-20* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *filed 3/30/00*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. Applicant's amendment filed 1/10/01 is acknowledged and has been entered.

Claims 1-3 and 5-54 are pending.

Newly submitted claims 53 and 54 are directed to inventions that are independent or distinct from the invention originally claimed for the following reasons: Claim 53 is drawn to a non-elected species of Group I and claim 54 is drawn to the peptide/MHC complex of non-elected Group II, whereas the elected group I is drawn to a peptide.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 53 and 54 along with non-elected claims 6-17 and 21-52 are withdrawn from consideration as being directed to non-elected inventions. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 1-3, 5 and 18-20 are currently being examined.

The search has been extended from the elected species, SEQ ID NO: 7, and a derivative comprising a partial region of SEQ ID NO: 7, to cover SEQ ID NO: 1-6 and derivatives comprising a partial region of SEQ ID NO: 1-7 having isoleucine as the C-terminal amino acid residue, and an amino acid sequence which has an essentially equivalent specificity or/and affinity of binding to MHC molecules as SEQ ID NO: 7.

In view of the amendment filed 1/10/01 only the following rejection remains.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-3, 5 and 18-20 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in the recitation of "essentially equivalent" because it is not clear what essentially equivalent specificity or/and affinity of binding to MHC molecules is. The metes and bounds of the claimed invention are not clear.

Applicant's arguments filed 1/10/01 have been fully considered but they are not persuasive.

The Applicant's position (on page 4 at the bottom at section "I" and continuing onto page 5 of the amendment filed 1/10/01) is that one skilled in the art would understand the meaning of "essentially equivalent" in claim 1 because both the specificity and the affinity of binding of a peptide to an MHC molecule can be determined without difficulties as evidenced by the Berzofsky and Geluk references provided by Applicant.

It is the Examiner's position that an amino acid sequence could have partially overlapping specificity of binding to individual members of a group of MHC molecules or specificity of binding to just one MHC molecule, as well as a range of affinities of binding, regardless of how easy it is to measure binding or binding affinity of a peptide to an MHC molecule.

The following are new grounds of rejection necessitated by the amendment filed 1/10/01.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-3, 5 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.
The amendatory material not supported by the specification and claims as originally filed is:

"wherein the peptide or peptide derivative has isoleucine as the C-terminal amino acid" recited in claim 1, part (h).

Applicant does not point to support for the said amendatory material, and the instant specification discloses only that the sequence of "peptide (VII)" was shortened by a single amino acid at the C-terminus (isoleucine) (specification on page 6, second paragraph). As a separate issue, the disclosed sequence does not actually appear to be the sequence of peptide VII.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

7. Claims 1-3, 5, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 95/07992 (of record).

WO 95/07992 teaches a peptide and pharmaceutical composition thereof comprising the peptide VNFFRMVISNPAATHQDIDF which is recited in claim 18 of WO 95/07992 and which comprises amino acid residues 1-18 of SEQ ID NO: 7 (underlined) of the instant application, and wherein the said peptide is therapeutically labeled with a marker group such as a radioisotope, a drug, a lectin or a toxin, and combined with pharmaceutical additive(s) including oils, i.e., depot adjuvants (especially claims 15, 16, 18, 19, 20, 23, 24, 26, page 28 at lines 5-9, page 27 at lines 19-37). Said peptide is at least 8 amino acid residues and less than 25 amino acid residues in length. Instant claim 5 is included because the peptide comprises a label, for instance, a radioisotope, a drug, a lectin or a toxin (claims 26 and 27 of the reference). Instant claim 18 is included because the said peptides are used to treat GAD-related autoimmune disorders such as IDDM or stiff man disease. Claim 19 is included because preparations of GAD polypeptides include oil, i.e., an adjuvant or accessory stimulating component (especially page 27 at lines 25-36).

With regard to instant claim 1, the property of having an essentially equivalent specificity and/or affinity of binding to MHC molecules is considered an inherent property of the reference compound. The claimed molecule appears to be the same as the art absent a showing of any differences. Since the Patent Office does not have the facilities for examining and comparing the molecule of the instant invention to those of the prior art, the burden is on applicant to show an unobvious distinction between the molecule of the instant invention and that of the prior art. See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

The reference teachings anticipate the claimed invention.

8. Claims 1-3, 5, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,011,139 (of record).

Patent No. 6,011,139 discloses a peptide of length 20 amino acid residues which comprises a partial region of the amino acid sequence of the elected species, SEQ ID NO: 7, FFRMVISNPAATHQDIDFLI. The sequence of the reference peptide is VNFFRMVISNPAATHQDIDF (SEQ ID NO: 50 of the reference), the portion underlined is the portion which consists of a partial region of SEQ ID NO: 7. Said peptide is at least 8 amino acid residues and less than 25 amino acid residues in length. Instant claim 5 is included because the peptide comprises a label, for instance, a radioisotope, a drug, a lectin or a toxin (especially column 9, lines 57-67). Instant claim 18 is included because the said peptide in a

pharmaceutical composition is used to treat GAD-related autoimmune disorders such as IDDM (especially column 2, lines 45-50 and Abstract) or for immunization in vivo (especially column 7, lines 9-8). Claim 19 is included because preparations of GAD polypeptides for immunization include adjuvants, including oil, i.e., an adjuvant or accessory stimulating component (especially column 7, lines 15-16 and column 14, lines 57-66).

With regard to instant claim 1, the property of having an essentially equivalent specificity and/or affinity of binding to MHC molecules is considered an inherent property of the reference compound. The claimed molecule appears to be the same as the art absent a showing of any differences. Since the Patent Office does not have the facilities for examining and comparing the molecule of the instant invention to those of the prior art, the burden is on applicant to show an unobvious distinction between the molecule of the instant invention and that of the prior art. See In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

The reference teachings anticipate the claimed invention.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a)

10. Claims 1-3, 5 and 18-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 95/07992 or Patent No. 6,011,139 each in view of Burke et al (U.S. Patent No. 5,750,114).

WO 95/07992 teaches a peptide and pharmaceutical composition thereof comprising the peptide VNFFRMVISNPAATHQDIDF which is recited in claim 18 of WO 95/07992 and which comprises amino acid residues 1-18 of SEQ ID NO: 7 (underlined) of the instant application, and wherein the said peptide is therapeutically labeled with a marker group such as a radioisotope, a drug, a lectin or a toxin, and combined with pharmaceutical additive(s) including oils, i.e., depot adjuvants (especially claims 15, 16, 18, 19, 20, 23, 24, 26, page 28 at lines 5-9, page 27 at lines 19-37). Said peptide is at least 8 amino acid residues and less than 25 amino acid residues in length. With regard to instant claim 1, the property of having

an essentially equivalent specificity and/or affinity of binding to MHC molecules is an expected property of the reference compound.

Patent No. 6,011,139 discloses a peptide of length 20 amino acid residues which comprises a partial region of the amino acid sequence of the elected species, SEQ ID NO: 7, FFRMVISNPAATHQDIDFLI. The sequence of the reference peptide is VNFFRMVISNPAATHQDIDF (SEQ ID NO: 50 of the reference), the portion underlined is the portion which consists of a partial region of SEQ ID NO: 7. Said peptide is at least 8 amino acid residues and less than 25 amino acid residues in length. Instant claim 5 is included because the peptide comprises a label, for instance, a radioisotope, a drug, a lectin or a toxin (especially column 9, lines 57-67). Instant claim 18 is included because the said peptide in a pharmaceutical composition is used to treat GAD-related autoimmune disorders such as IDDM (especially column 2, lines 45-50 and Abstract) or for immunization in vivo (especially column 7, lines 9-8). Claim 19 is included because preparations of GAD polypeptides for immunization include adjuvants, including oil, i.e., an adjuvant or accessory stimulating component (especially column 7, lines 15-16 and column 14, lines 57-66). With regard to instant claim 1, the property of having an essentially equivalent specificity and/or affinity of binding to MHC molecules is an expected property of the reference compound.

WO 95/07992 or Patent No. 6,011,139 do not teach said composition wherein the accessory-stimulating component is a cytokine.

Burke et al teach an HSV polypeptide vaccine which further comprises immunomodulating cytokines such as IL-2 and a pharmaceutically acceptable carrier (especially column 4, lines 7-38).

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to make a pharmaceutical composition comprising the cytokine of Burke et al and the peptide of WO 95/07992 or Patent No. 6,011,139.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this because it was well known in the art at the time the invention was made to help elicit an immune response to an administered peptide antigen using a cytokine, and as exemplified by the teaching of Burke et al for the composition comprising a peptide, IL-2 and a pharmaceutically acceptable carrier.

Applicant's arguments filed 1/10/01 have been fully considered but they are not persuasive.

It is Applicant's position that there would have been no motivation to mix any cytokine with the peptides of WO 95/07992 or of Patent No. 6,011,139 because the HSV polypeptides of Burke et al are unrelated to the GAD polypeptides of WO 95/07992 or of Patent No. 6,011,139.

It is the Examiner's position that adjuvants, including cytokines, are useful in amplifying an immune response regardless of the type of peptide being used as the immunogen.

11. SEQ ID NO: 1-7 appear to be free of the prior art.

12. No claim is allowed.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne DiBrino whose telephone number is (703) 308-0061. The examiner can normally be reached Monday through Friday from 8:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

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March 20, 2001

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